

**REMARKS**

**Status of the Application**

Claims 16-25, 27-28, 30-31, 33, and 35 are pending and under examination in this application. No claim amendments are presented herein.

Applicants respectfully request the consideration of the remarks below under 37 C.F.R. § 1.116.

**Rejection of Claims 16-24, 27-28, 30-31, 33, and 35**

The Office continues to reject claims 16-24, 27-28, 30-31, 33 and 35, contending that they are obvious under 35 U.S.C. § 103(a) over Shainoff (*Adv. Electrophoresis* 6: 65-176 (1993)) in view of Bhat & Nagineni (*Anal. Biochem.* 105: (1988)). (Office Action at pages 3-4.) Applicants traverse that rejection.

An evaluation of obviousness involves four general steps:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating objective evidence of non-obviousness (secondary considerations).

See M.P.E.P. § 2141; *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

After considering those four *Graham* factors, the next step is to determine "whether the prior art would have suggested to one of ordinary skill in the art" to combine the prior art teachings to achieve the claimed invention. *In re Dow*, 837 F.2d 469, 473 (Fed. Cir. 1988). "Both the suggestion and the expectation of success must

be founded in the prior art, not in the applicant's disclosure." *Id.*; and see M.P.E.P. § 2143.

Furthermore, the question of obviousness depends on not only what the references expressly teach, but what they would collectively suggest to one of ordinary skill in the art. *Leinoff v. Louis Milona*, 726 F.2d 734 (Fed. Cir. 1984). Thus, in considering the differences between the prior art and the claimed invention, it is impermissible to pick and choose only certain elements from the prior art documents that support a finding of obviousness while ignoring other suggestions that teach away from the claimed invention. See, e.g., *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443 (Fed. Cir. 1986). Likewise, the inquiry is not whether certain differences between the prior art and the claimed invention are obvious, but whether the claimed invention taken as a whole is obvious from the prior art. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986).

Here, the Office appears to have overlooked that one should consider what the cited combination of documents teaches as a whole. For example, the Office contends that Shainoff discusses agarose gels at page 67, line 14. However, that page and line merely comments that the mobility of plasma proteins is similar in agarose and glyoxyl agarose. The Office also contends that Shainoff discusses composites of agarose and glyoxyl agarose, citing the document at page 72, last paragraph. But that part of the document is only a general statement that "[c]omposites of agarose with other hydrocolloids have recently been shown to provide advantages over agarose itself," which does not explain what the so-called advantages are or explain how such advantages would relate to any particular experimental applications.

More fundamentally, Shainoff as a whole is intended to convince those in the art not to use agarose or even composites including agarose at all, but instead to use glyoxyl agarose and glyoxyl/polyacrylamide composites for various sorts of experimental procedures. That is evident from the title and table of contents, for instance, as well as from reading the entire document. The present claims do not recite glyoxyl agarose. Nor do they recite glyoxyl/polyacrylamide composites. In addition, while Figure 4 of Shainoff depicts glyoxyl agarose electrophoresis of fibrinogen, the fibrinogen is visualized by immunostaining, which is a different staining method than the one claimed here.

While Bhat & Nagineni discusses submarine electrophoresis, its disclosure is directed to 2D protein electrophoresis gels, which is an entirely different electrophoresis procedure than the one claimed here, having different technical considerations. Moreover, Bhat & Nagineni use polyacrylamide, not agarose, for the separation and also visualize proteins with <sup>35</sup>S radiolabels, which is a more precise technique than the dye staining method claimed herein.

Accordingly, Shainoff and Bhat & Nagineni taken in combination do not provide sufficient information for one of ordinary skill in the art to conclude that visualizing fibrinogen or von Willebrand Factor multimers using agarose in a submarine gel system with simple dye staining, as claimed here, would reasonably be successful in resolving multimers of those proteins. That combination would also suggest the use of a different electrophoresis medium than the one claimed here, such as glyoxyl agarose or polyacrylamide, and would also suggest a more precise staining method than the one claimed here, such as radiolabelling or immunostaining. The differences between

Shainoff and Bhat & Nagineni taken together are just too large to warrant a *prima facie* case of obviousness.

Hence, Applicants' claims are nonobvious and Applicants request the withdrawal of this rejection and the allowance of claims 16-24, 27-28, 30-31, 33 and 35.

**Rejection of Claim 25**

The Office rejects claim 25 as allegedly obvious over Shainoff in view of Bhat & Nagineni, and further in view of Perrella & Denisov. Applicants also traverse that rejection.

All of the remarks above regarding Shainoff and Bhat & Nagineni also pertain to this rejection. For brevity, those remarks will not be repeated in this section. In addition, Perrella & Denisov is merely cited for the teaching of the claimed temperature range. (Office Action at page 4.) Hence, it does not rescue the defects of the other two parts of the prior art combination.

Therefore, for the same reasons given above for the other pending claims, claim 25 is also nonobvious and Applicants request the withdrawal of this rejection and the allowance of that claim.

Please grant any extensions of time required to enter this response and charge  
any required fees not found herewith to Deposit Account No. 06-0916.

Respectfully submitted,

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